



**EL-MUL TECHNOLOGIES LTD**

Electron and Ion Detection Solutions

*You Can Detect the Difference™*

**FOR IMMEDIATE RELEASE**

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## **El-Mul Selects AIXTRON “Black Magic” Plasma CVD System to Produce Carbon Nanotube-Based Electron Sources**

*Benefits include precision, reproducibility, uniformity and quick turnaround for El-Mul’s E-Beam On-a-Chip™ platform.*

**YAVNE, ISRAEL (15 September 2008)** – El-Mul Technologies’ **E-Beam On-a-Chip™** platform, which demands precision placement and step repeatability of vertically-aligned carbon nanotubes (CNTs), will be produced using AIXTRON’s Black Magic system, a fully automatic deposition system capable of thermal and plasma enhanced chemical vapor deposition (PECVD) of CNTs.

El-Mul’s recent achievement of pilot production for its **E-Beam On-a-Chip™ CNT-based electron source device represents a paradigm shift** for the industrial manufacture of electron sources.

“Our technological achievement requires a highly-controlled growth process of carbon nanotubes,” says Mr. Sagi Daren, El-Mul’s Nano Electron Source Project Manager. “The Black Magic systems’ rapid heater ensures that the metal catalyst we apply for growth stays precisely at the centre of the emitter structure, and plasma process deposits straight, vertical nanotubes. Our resulting fine-beam product **achieves a divergence of +/-5 degrees at 50 nA/120 eV beam current and is perfectly on-axis.**”

Daren adds: “The reproducibility, uniformity and quick turnaround of the Black Magic system have contributed greatly to our success in moving our E-Beam On-a-Chip™ towards commercial production. Thanks to these attributes, we are today approaching industrial yields, and will soon compete very effectively with conventional hand-made electron sources.”

“We are very pleased with EI-Mul’s success”, says Ken Teo, Director of Nanoinstruments at AIXTRON. “Our growth technology exactly meets the requirements of device manufacturers with respect to flexibility, yield and control.”

E-Beam On-a-Chip™ utilizes the unique electrical and mechanical properties of CNTs, which make excellent cold field emission electron sources. EI-Mul’s platform is a low-energy electron generator of well-characterized fine beams as well as high-current broad beams. It is aimed at bringing new capabilities to **electron microscopy, gas ionization and X-ray tools, flat panel displays, sub-40 nm semiconductor manufacturing nodes**, and other applications.

Traditionally, electron sources have been made individually and assembled entirely by hand. As the name suggests, EI-Mul’s E-Beam On-a-Chip™ uses microelectronic-compatible processing to produce batched electron sources on semiconductor wafers. Benefits of the platform include parallel device production, scalability and small size, as well as micro precision in fabrication which eliminates many of the alignment issues.

More information on EI-Mul’s E-Beam On-a-Chip™ platform can be found at: <http://www.ebeamonachip.com>. More information on AIXTRON’s Black Magic system can be found at: <http://www.aixtron.com/index.php?id=852&L=1>.

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**E-Beam On-a-Chip™** is a trademark of EI-Mul Technologies Ltd. All other trademarks are property of their registered holders.

### **Information about EI-Mul Technologies**

EI-Mul Technologies designs, integrates and manufactures electron and ion detectors for a wide variety of industries and research environments, and is recognized today as a leading solutions provider for nanotechnology toolmakers. EI-Mul has pioneered nanoscale devices since 1999, with its E Beam On a Chip™ next generation carbon nanotube-based electron beam source platform. EI-Mul Technologies Ltd, a privately-held company, was founded in 1992 and maintains its headquarters in Yavne, Israel. Find more information at <http://www.el-mul.com>.

### **Information about AIX**

AIXTRON AG is a leading provider of deposition equipment to the semiconductor industry. The Company’s technology solutions are used by a diverse range of customers worldwide to build advanced components for electronic and opto-electronic applications based on compound, silicon, or organic semiconductor materials and more recently carbon nanostructures. Such components are used in display technology, signal and lighting technology, fiber communication networks, wireless and cell telephony applications, optical and electronic data storage, computer technology as well as a wide range of other high-tech applications. Find more information on AIXTRON AG (FSE: AIX, ISIN DE0005066203; NASDAQ: AIXG, ISIN US0096061041) at: [www.aixtron.com](http://www.aixtron.com).